

*J. Newman,
Printy Lift.*

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UNITED STATES PATENT OFFICE.

JOSEPH NEWMAN, OF BALTIMORE, MARYLAND.

FIRE-ENGINE PUMP.

Specification of Letters Patent No. 691, dated April 14, 1838.

To all whom it may concern:

Be it known that I, JOSEPH NEWMAN, of the city of Baltimore and State of Maryland, have invented a new and useful Improvement in Fire-Engines, which I denominate "the Fire-Engine Pump;" and I do hereby declare that the following is a full and exact description.

The principle consists in converting the ordinary pump into a fire-engine, or a suction, for forcing and throwing water, while it, at the same time, retains the office of the common street, ship or other pump. This object effected by the application of any form of the usual apparatus of the fire engine, consisting of a cylinder, piston, air vessel, hose, &c., as will be particularly noticed in the following description.

In the drawing A, A, represents the lower part of that part of the pump above ground, as seen in the street. *b, b*, sheet iron jacket bolted on the pump stock, the top of the stock being cut away, as will be seen and described in the next figure. On the iron jacket is secured by bolts and nuts, as seen at *c, c*, &c., a cap which supports, or to which is attached the cylinder of the force pump, and on which stands the air chamber *d*. *e*, is the handle, which rests on the iron frame or support *f, f*, which support is bolted to the jacket *b, b*. *g*, is the rod connecting the handle with the piston and other rod as will be shown hereafter.

Fig. 2 represents a section of Fig. 1, where *a, a*, represent the wood part as the corresponding letters do in Fig. 1. *g*, is the rod connecting the handle with the lifting box *h*. *i*, is the retaining box; these two boxes with their valves are like the ordinary pump apparatus. *j*, is a joint connecting the rod *g*, with the box handle and rod *k*, which is joined at *l* with the piston rod *m*. The pump stock, as at *l*, in Fig. 1, is provided with a closely fitted door by which the joint is accessible from without. *n*, is the piston. *o, o*, cylinder. *p, p*, two valves which induct the water below the piston. *q*, valve which supplies the water, through the side pipe *r*, to the cylinder above the piston, *p, p* and *q*.

Fig. 3 is a downward view showing the

position and form of the valves and side pipe *r*. At the down stroke of the piston, the water passes up the side pipe *s*, and at the up stroke it passes up the pipe *t*, and passes alternately through the valves *u, u*.

Fig. 4 is a downward view of valves *u, u*, the usual screw to which the hose is attached.

Fig. 5 represents a form of the cylinder, pipes and valves which may be used without an air vessel; the valves may be round or any other form.

Fig. 6 represents another form of the cylinder and piston. This, it may be seen is a single stroke piston. I have contemplated various forms of the forcing apparatus.

Fig. 7 represents a downward view of the pump stock and levers or handles; as *a, a*, the fulcrum; *f, f*, prop as *f, f*, Fig. 1. *e*, handle as at *e*, Fig. 1. *g, g, g, g*, additional levers. As these may be constructed in various ways it is unnecessary to be more particular.

By the foregoing structure and arrangement we have only to stop the spout, as at *x*, Fig. 1, and the common pump is converted into a fire engine, while it still remains a common working pump. It will be seen by Fig. 2 that nearly all the open space above the retaining valve *i*, except what is occupied by the forcing cylinder, is a reservoir of water to supply the fire engine.

The advantages which would result from the application of the principle I propose, to most of the street pumps and others which might be placed in appropriate locations, is too obvious to require any additional remarks.

I claim—

The combination of the common pump, prepared as before described, with the cylinder, piston, valves and air chamber of the ordinary fire or hydraulic engine; which combination produces a twofold instrument, viz. a self supplying fire engine and a culinary or common pump.

JOSEPH NEWMAN.

Witnesses:

SIMON KEMP,
JOHN W. POST.